

II. INVENTORY

A. Documentation Standards and Methodology

1. Introduction

This chapter reviews the necessary components and procedures to complete the inventory of archeological cultural resources at the facility. The discussion begins with a review of the role of the historic context as it is applied in the inventory and evaluation process. When the identification of historic properties is undertaken as part of a comprehensive planning process, background research should be part of the development of a historic context. The historic context serves to organize information and identify the various types of resources of a particular period. A set of historic contexts typically provides the comprehensive summary of all selected aspects pertaining to the prehistory and history of a given area. Appendices F and G of this document provide overviews of the facility and are presented toward the development of prehistoric and preinstallation historic contexts.

After defining the historic context, a discussion of the procedures for completing an archeological inventory follows. The archeological inventory is first guided by the identification of sensitive areas or those locations likely to contain prehistoric and historic archeological sites. The text presents an outline of the sensitive areas identified on the facility and presents the appropriate procedures for conducting an archeological survey. Data recovered during survey and recording generally allow resources to be evaluated and placed into one of two NRHP classes: sites not eligible for inclusion; sites that are potentially eligible (i.e., of unknown status) for inclusion. Although based on survey-level data, a few sites may be placed into a third class restricted to sites that are determined eligible for inclusion in the NRHP. Potentially eligible properties require additional fieldwork to acquire sufficient data for definitive evaluation. When a historic property can not be avoided and protected, mitigation procedures for data recovery may be necessary. Procedures for nomination of eligible resources to the NRHP are then presented.

Following the methodology, the current data are presented for known and potential archeological sites, any Native American cultural items or traditional cultural use areas that may be present, and the architectural inventory of the facility. The remainder of the section discusses the NRHP criteria for evaluating cultural resources and the current status of those resources that are situated on the facility.

2. Historic Contexts

As defined by 36 CFR Part 800.2(e):

"Historic property" means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. This term includes, for the purposes of these regulations, artifacts, records, and remains that are related to and located within such properties. The term "eligible for inclusion in the National Register" includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria.

The inventory and evaluation processes for cultural resources, and the subsequent determination of those resources that are considered eligible for inclusion in the NRHP (i.e., historic properties), begin with archival or background research. As defined by the Secretary of the Interior's *Standards for Preservation Planning*, decisions about the identification, evaluation, nomination, and treatment of historic properties are

best informed when the relationship of individual properties to other similar properties is understood. Information concerning archeology, history, architecture, and engineering must be gathered and organized to define these relationships. The resulting organizational framework is called a "historic context." Based on a theme, the historic context groups information about related historic properties within a limited geographic area and a specific chronological period. An important component of the historic context is the concept of the "property type" or the particular physical manifestation of the historic context, such as a particular type of archeological site. The property type consists of a group of related cultural resources that shares a common physical or temporal character such as prehistoric villages of the late Woodland period or historic farmsteads.

3. Archeological Cultural Resources

a. Inventory Projects

Survey, documentation, and testing procedures constitute the inventory and evaluation phases for archeological resources. Generally, the methodology used to complete the inventory is an intensive survey of the project area. As a part of this phase, background archival work for the project area is conducted in order to better understand the local and regional history. In addition, intensive archival work is undertaken for historic period sites identified during the survey. The results of archival research will then be used to formulate a research design, with the objective of integrating research and project goals with field and laboratory methodology.

The combination of archival research and surface reconnaissance completed to date has established that the potential is high for the presence of significant historic and prehistoric period archeological sites within the boundaries of the facility. Moreover, the facility may contain archeological resources nearly anywhere within the plant where sedimentary environments permit the preservation of cultural deposits. The following survey methodology is proposed to complete the archeological site inventory based on the research completed to date.

b. The Cultural Resources Sensitivity Model

The cultural resources sensitivity model is designed to exclude the 3,303 acres of lands disturbed by the construction, use, and maintenance of SFAAP (Figure II-1). Any potential cultural resources located within the disturbed areas shall likely remain off-limits for future investigation and therefore should not be considered in cultural resources planning. The primary military features of the landscape consist of railroads, gravel and paved roads, earth-covered magazines, structures, buildings, borrow pits, stock ponds, fences, quarries, and reservoirs. Related to these features are a variety of disturbed lands where the potential for cultural resources is likely to be very low. SFAAP terrain excluded from the cultural resources sensitivity model was compiled from a variety of sources: various aerial photographs; data compiled by the office of the SFAAP land manager; and maps from the U.S. Department of Agriculture, Soil Conservation Service. In addition to the disturbed (3,303 ac) areas, approximate 600 acres have been surveyed, leaving approximately 5,639 acres of 9,542-acre facility to be investigated for archeological cultural resources.

The sensitivity model prepared for prehistoric archeological cultural resources is illustrated in Figure II-2. The determination for areas of high sensitivity for prehistoric cultural resources is based primarily on access to water, relatively level topography, and ridge crest locations. Areas expected to contain the highest density of prehistoric sites are within 500 feet of perennial streams, such as Kill, Spoon, and Captain creeks and their tributaries. Areas of relatively level topography that occur near water sources, particularly those associated with stream confluences, were typically favored habitation areas for both short- and long-term

camps and villages. Lower order ephemeral drainage areas and springs also provided water sources at different times and are considered to have a moderate to high potential for prehistoric sites. Ridge crests that maintain commanding viewpoints over the surrounding landscape are also likely to contain Archaic sites such as short-term hunting or extractive camps and isolated residences of the Ceramic period.

Low sensitivity areas for prehistoric cultural resources include those lands that do not have access to water or maintain moderate to steep slopes. Those areas that have not been disturbed but are beyond the limits of the high sensitivity areas have been designated as being of low sensitivity for prehistoric sites as well (see Figure II-2).

The favored variables of initial frontier homestead siting during the mid-1800s were probably not altogether different from the aboriginal settlements, where well-drained soils and proximity to water and woodlot for building and fuel supplies were likely primary considerations. As the agricultural, market-oriented economy emerged subsequent to the early frontier period, however, the areas preferred for later historic settlement may have differed considerably from those deemed desirable by prehistoric populations because of the evolution of different lifeways or cultural adaptations by Euro-American populations. Despite this apparent preference change by later Euro-Americans, it is anticipated that the earlier frontier settlements occurred within those areas designated as high sensitivity for prehistoric sites.

Homesteads during the first 20 years of SFAAP settlement (ca. 1854-1874) were not cartographically documented. Consequently, it is not known where the early homesteads were established. It is known, however, that the Shawnee were certainly among the earliest homesteaders, possibly as early as the late 1820s to early 1830s with the creation of the original 200,000-acre Shawnee Reserve. By the mid-1850s, the Shawnee cultural adaptation was one of a then "modern farming" process, replete with farmsteads similar to those of the Europeans, consisting of log cabins or wood frame dwellings and outbuildings as well as cleared pasture and plowed lands. "European" immigrants included many families from the eastern and central states as well as those from Europe (Blair 1915:112; Hudson 1986).

Information is needed to determine the particular variables of early farmstead siting beyond the assumptions that have been made and whether there were noticeable differences in settlement based on point-of-settler origin. In other regions, preference for farmstead siting includes such issues as slope, drainage, water access, soils (Louis Berger & Associates, Inc. 1990, 1991), protection from prevailing winds and view shed (Manning 1984), prevailing ethnic or local tradition (Allen 1852:29), or evolving property lines (Wäcker 1975). By the 1860s, additional influences probably included access to the developing market-oriented economy and its attendant road network, as well as proximity to industrial centers consisting of grist mills, saw mills, potteries, warehouses, tanyards, and blacksmith shops. However, the circumstances of the Kansas frontier included appreciable conflict between pro-slavery and free-state settlers over the issue of popular sovereignty and "whites" against Indians who held most of the claims over the timbered lands. With raiding by mounted bands of "bushwhackers" (pro-slavery) and "jayhawkers" (free-soilers) combined with those of invading "pukes" (Missourians), the seven years prior to the Civil War were plagued with violence similar to the war years of 1861 to 1865. With Lexington, an avowed slave-state community within the facility and nearby De Soto as a free-man town, it is likely that there was significant competition and conflict between the two communities. Additionally, being situated along two of the major regional thoroughfares and in close proximity to the border ruffians' hideouts along Indian, Tomahawk, and Coffee creeks (Gregg 1874:25) combined with the fact that SFAAP lies within the 30-mile radius of Lawrence where much of the territorial violence was reported (Arnold 1931; Blair 1915; Phillips 1856), it is likely that evidence of the period violence is represented on SFAAP (see Figure I-1).

Data are needed to understand the effect of raiding on the area settlers and to understand if the violence influenced the siting of the period's homesteads and general settlement. It is possible, if not likely, that the

brutality may have influenced some settlers to seek remote, secluded locations in thickly forested floodplains for both squatter settlements or for caching their property. Potential rockshelters in limestone escarpments along drainages may also contain evidence of historic caching from the frontier period (Blair 1915:191; Marcy 1859:162-164). Domestic property types from the 1850s and 1860s may include short-term encampments and dwellings and more long-term settlements. Temporary encampments may be represented by fire hearths, cache pits and refuse scatters consisting of tin cans, bottle glass, ceramics, and other materials including possibly pillaged valuables. Potential short-term structures may include lean-tos and possibly sod and hay houses. More permanent settlements may be marked by more pronounced refuse deposits; well and privy shafts; and stone, brick, or framed farmhouses and related buildings with masonry sill foundations. Some log cabin and stone residences of the period may also have been fortified. Other fortifications included temporary redoubts constructed of sandbags to protect marksmen (Historic Preservation Department 1987:26). Information is needed to understand if the social climate of the period influenced the duration of settlements and how frequently people may have left the area, or if people continued to emigrate despite the circumstances.

Historically documented site locations (1854-1928) have been transferred from a body of historic maps on file at the State Archives onto modern maps using Intergraph, a Geographic Information System (GIS) software package (see Figure I-4). Collective Shawnee family land claims on SFAAP were transferred from an Indian land agent's map of Shawnee land claims (Stuck ca. 1854). Historic trails, including a portion of the Oregon Trail, and the town site of Lexington were transferred from four USGLO Maps (1855a, 1855b, 1856, 1857, 1861). Farmsteads, schools, churches, a mill, and other sites were transferred from three historic atlases (Heisler and Smith 1874; George Ogle and Company 1902, 1922) and a soils map (Knoebel and Davis 1928).

c. Documentation Procedures

(1) Phase 1: Recommended Survey Methods

The present SFAAP landscape is primarily marked by grazing land, hay pasturage, forested areas, and small reservoirs. Although the Kansas State Historical Society 1994 document—*State Historic Preservation Officer's Guide for Archeological Survey, Assessment, and Reports* (the *Guide*)—does not advocate any particular survey method, survey should involve systematic transects at regular intervals, based on the landform over which survey is conducted and the potential for the area to contain cultural resources. The following is a suggested methodology to follow for archeological survey of the installation, after consultation with the Kansas SHPO.

- Survey of both grassland and forested areas requires an examination using shovel tests. Survey transects should be set at a maximum of 30-m intervals and individual shovel tests should be established at a maximum of 15-m intervals. Selective shovel testing should be conducted on specific landforms such as erosional remnants, stream terraces, upland areas near water in undisturbed areas, or other areas of high cultural resources sensitivity (see Figure II-2).
- Within low-site-potential areas, survey transects may be spaced at greater distances (30 m) and shovel tests placed judgmentally. This selective shovel testing should be tailored to the landscape as necessary.
- Areas exhibiting greater than 15 percent slope should merely be traversed in order to locate benches that may have been optimal places for camp sites.

The potential for deeply buried cultural deposits in the floodplains, in which streams have meandered and which have been subjected to frequent flooding for long periods of time, often results in a variety of buried components on buried stream terraces.

- It should be noted that the potential for deeply buried cultural deposits in the floodplains of Kill, Spoon, and Captain creeks and their associated tributaries is considered high. Several sites ranging from Paleo-Indian to Ceramic period occupations have been encountered in similar geologic settings buried to a depth of several meters. Unless a planned action will result in direct or secondary impacts to deeply buried floodplain deposits, however, general survey operations should limit subsurface investigations (through shovel tests of 50-x-50 cm x .8 m [depth]—enlarged to compensate for extra depth needed for floodplain testing) to the upper 80 cm in those settings. Planned impact to deeply buried deposits should be preceded by cultural resources management investigations that incorporate the use of earth-moving equipment (backhoe, gradall, or trackhoe) and/or a coring program to identify artifact-bearing deposits and stratigraphy prior to evaluation or Phase 2 activities. Any deep sampling must consider the Occupational, Safety, and Health Administration (OSHA) regulations for appropriate shoring or terracing requirements.

If artifacts are located on the surface or in a shovel test, immediate investigation must continue in order to determine whether this area represents an isolated find or a site.

- Shovel tests—with minimal dimensions of 30-x-30 cm and 30 cm in depth—are excavated in the vicinity of the original find to help with the site/locality and site area determinations.
- The soil from all shovel tests should be sieved through 6.4-mm (¼-in) mesh hardware cloth.
- If the remains are found to constitute a site, the tests will aid in broadly defining the horizontal and vertical extent of the cultural deposits, as well as in determining whether subsurface deposits remain intact.
- A scaled pace-and-compass topographic sketch map of each site is to be drawn.
- It is important for the survey to provide general dimensions of each site (vertical and horizontal) and to record the general configuration of the site by indicating the boundaries on project maps.

When an archeological site is found during a survey, a surface collection of selected diagnostic artifacts may be made. The collection strategy, as well as the type and quantity of artifacts collected, will depend on the size of the site, the number and diversity of artifacts, environmental constraints, and the timetable of the project. Spatial control, with appropriate written descriptions and maps, is required of all surface collections. If artifacts are observed but not collected, frequencies per square meter should be estimated and materials should be photographed or described.

Descriptions of each shovel test should be recorded in addition to the other documentation of the site area; this documentation should include the completion of an appropriate State archeological site survey form; the plotting of the site position on a U.S. Geological Survey (USGS) 7.5-minute topographic map; the drawing of a scaled pace-and-compass, topographic sketch map; and photographs from at least two viewpoints. Sites must be recorded on the Kansas Archeological Survey form and submitted to the office of the State Archeologist. A temporary marker is placed at each site bearing the date of the site recording and the site field number, or permanent State number if known.

(2) Phase 2: Site Testing and Evaluation for NRHP Eligibility

A testing phase for an archeological resource is required when a definitive determination of NRHP eligibility cannot be made from survey-level data. The testing phase may serve other purposes. For example, test excavations are often necessary for obtaining a data base for specific research purposes. Procedures used in the testing phase produce a more accurate and extensive data set than is possible during

survey. If human remains are encountered during any undertaking, non-Native American remains are assessed as any other resource, with significance and historic association completed. If the human remains are of Native American affiliation, then NAGPRA [P.L.101-601] will apply. NAGPRA, however, is not part of the Section 106 process.

After the inventory and preliminary evaluation phase has been completed, further evaluation of the potentially eligible properties may be necessary.

- If at all possible, the site should be protected from any further damage from construction or vandalism.
- It is recommended that such sites be left for future investigation as innovative techniques for gathering more and better data are consistently being developed.
- Should the military mission override the consideration to avoid or protect the site or if the site is in danger of destruction through natural processes, a site-specific mitigation plan should be developed in order to recover as much information as possible.

Test excavation of the site should be designed to answer specific research questions pertinent to the region as a whole as well as general regional concerns. However, the techniques and documentation used should be designed in such a way that the information recovered could also be used to help address research questions that may be generated in the future.

- During Phase 2, or test excavation, a transit and tape or other mapping equipment are to be used to map the site, establish a grid, locate excavation units, and maintain vertical and horizontal control.
- Larger units are excavated with greater control.
 - * A large number of relatively small units, specifically 50-x-50-cm squares, may be used to more accurately delineate the components and rapidly collect data on the spatial extent and depth of cultural deposits.
 - * Using this information, a limited number of larger units (e.g., 50-x-100-cm, 1-x-1-m, or larger) should be placed in areas of higher artifact density, greater depth, suspected features, etc., in order to increase artifact samples and collect additional data on horizontal and vertical stratigraphy, site context, physical integrity, and preservation potential. Since a larger unit is used, deeper excavations are possible and more information on soil horizons/strata, disturbance within deposits, and relative positions of artifacts within the deposits can be gathered.
 - * All of these units should be excavated in cultural strata or arbitrary 5-cm and/or 10-cm levels, with the sediments processed through at least 6.4-mm (¼-in) mesh hardware cloth.
 - * Documentation of each level of each unit (provenience) is essential. Artifacts should be carefully inventoried so that the test units can be reconstructed at a later time in the laboratory.
 - * In cases of historic farmsteads, machine trenching may be used to expose larger or deeper soil profiles. These trenches are particularly valuable for understanding how the stratigraphy encountered in isolated test units articulates with others across the site and to provide a rapid means of examining selected soil strata.
 - * For deeply stratified prehistoric sites where artifact-bearing deposits occur below a depth of one meter, larger test units (i.e., 1-x-2 m) are recommended, with maximum provenience never exceeding one square meter. In particularly large prehistoric sites with extensive deposits, or smaller sites with deeply buried cultural deposits, limited backhoe trenching may be appropriate. Any deep testing must consider the OSHA regulations for appropriate shoring or terracing requirements.

(3) Phase 3: Data Recovery as a Mitigation Measure for NRHP-Eligible Sites

When an NRHP-eligible site can not be protected from impacts, it may be necessary to mitigate the site so that important information may be recovered. Excavation strategies for data recovery must be based on site specific characteristics and must be developed on a case-by-case basis. The methodologies to be employed in both field and laboratory settings, as well as their rationale and the use of information obtained in problem-oriented management models, must be reviewed by the SHPO and other professionals.

The initial step for the mitigation of cultural resources is the development of a historic context or a research design (i.e., a summary of the available information and a statement of research objectives and methodology). A mitigation plan is developed when it is determined that mitigation of an adverse effect by some form of data recovery is necessary. The purpose of this plan is to:

- identify the overall and specific project goals,
- list the methods and techniques needed to attain these goals,
- provide a focus for the work to progress, and
- address specific research questions pertinent to the region.

Formal research designs for the prehistoric and historic eras of SFAAP remain to be completed for the facility. Mitigation plans will vary from situation to situation according to the level of documentation defined in the scope of work for the project.

Mitigation of archeological properties can take many forms depending upon the amount and area of the site to be destroyed, the depth of the deposits, the type of site involved, and the type of disturbance planned for the area.

- On sites with features exposed on the surface or historic sites with permanent surface features that may provide clues to the site size and function, large blocks of units may be placed in order to gather data on those features and their associated cultural deposits.
- On sites where structures are not revealed by surface artifact or feature distributions, test excavation units should be systematically placed across the site so that intrasite variability of artifacts and features may be examined. The interval between units on this systematic grid will vary according to the size and complexity of the site.
- In areas where disturbance will only claim a portion of the site, excavation in that portion may be complete if the area is small. If the area is large, excavation blocks will be focused on those areas that provide the best contextual integrity related to specific occupational episodes or cultural components. Since portions of the site will remain intact, the mitigation plan for this type of situation can define specific questions regarding the occupation of the excavated portion of the site because future questions can be answered at a later time with excavations in other portions.
- In areas where site deposits are buried, mitigation plans involving heavy machinery for the removal of overburden may be developed. This type of excavation is usually restricted in scope by its very nature. Removing overburden and sampling stratified living surfaces consumes time and money and usually exposes only a small portion of the area to be investigated.
- Avoidance or protection of deeply buried sites is usually possible and should be considered the best alternative.

A specific data recovery plan should be developed in consultation with the SHPO. Such recovery plans should be developed with appropriate research designs and consideration of the Secretary's *Guidelines for*

Historic Preservation Projects: Professional Qualifications Standards [48 FR 44716-44740] and 36 CFR Part 60. If SFAAP and the SHPO cannot reach agreement concerning the data recovery plan, ACHP comment may be solicited as a means of resolving the disagreement.

If necessary, prior to commencement of fieldwork, the project principal investigator, key field and laboratory personnel, and the HPC representative of the facility will meet with a representative of the SHPO in order to ensure a proper understanding of the project goals and objectives and to coordinate data recovery efforts. Native American coordination pursuant to NAGPRA is recommended as well.

The Secretary of the Interior's *Standards and Guidelines; Archeology and Historic Preservation* [48 FR 44716-44740] sets forth project requirements as well as requirements for personnel (see *Professional Qualifications Standards* [48 FR-44740] and/or 36 CFR 61) involved in an excavation.

- As a minimum requirement, Principal Investigators (PIs) must have acquired a graduate degree and should have at least one year of full-time professional experience or equivalent specialized training in archeological research, administration, or management.
- The PI must develop a research design encompassing past work in the region with pertinent research questions to be answered by the excavation.
- The profiles of all larger test units should be drawn and described, and the investigation should include an in-depth investigation of the stratigraphy and site formational processes.
- The purpose of the excavation should be to add to the information already gathered in the area and attempt to answer questions that have arisen from other excavations in the region.
- The excavation should produce an ordered body of data readily usable not just by the PI but by anyone else interested in studying the information in the future.
- Initial laboratory work (cleaning artifacts, fine screening samples, etc.) should be recorded in an accompanying notebook to be used in conjunction with the field documentation so that materials recovered in the field retain the associations they had when taken out of the ground.
- Extensive notes on the types of analysis and definitions and procedures used must be maintained.
- When analysis is completed, the PI may disseminate the information to other researchers through a professional-quality report, conference presentations, and professional journals.

Dissemination of information about the project to the public may be accomplished through distribution of a popular version of the final technical report to area libraries, video media, or public displays. If the dissemination of such information is intended, it must be planned for in the original scope of work at the time of initial project planning.

d. Curation of Data Obtained through Archeological Investigations

Data such as maps, notes, labeled artifacts, etc., obtained during archeological inventory, survey, and excavation projects will be curated in a federally approved institution per 36 CFR Part 79. The cultural remains recovered from the facility will require a curation agreement with an appropriate facility to preserve records and materials to be made available to researchers in the future.

4. Architectural Cultural Resources

As stipulated in the Inactivation PA, the undertaking of inactivation may result in changes in the maintenance levels of military-related buildings and structures at the facility. General resolutions regarding

World War II buildings and structures were reached by the Kansas SHPO. According to SHPO concurrence, once the World War II architectural components at SFAAP have been documented, their loss through demolition, sale, or excess status will have been mitigated. Similarly, the Cold War architectural resources do not meet criteria Consideration G for exceptional significance applied to resources less than 50 years old and are thus ineligible for NRHP inclusion. The parties to the agreement noted that, although the buildings taken as a group are historically important, the concurrence of the Kansas SHPO effectively mitigates all impacts to the facility military architecture. Therefore, the military buildings and structures at SFAAP that are not in use may be disposed of through sale or demolition.

The exception to this procedure is the preinstallation Roberts house (Building No. FH-3), which is eligible for inclusion in the NRHP and will, therefore, be maintained and managed. It should be noted that the grounds surrounding the eligible preinstallation Building No. FH-3—the Roberts house—have not been investigated archeologically; therefore, site determination for the area/house has not yet been made and it is not yet a recorded site.

5. Nominations to the NRHP

One of the responsibilities of the Federal agency under Section 110 of NRHP, as amended through 1992, is that

- the agency, with the advice of the Secretary and in cooperation with the SHPO, shall establish a program to locate, inventory, and nominate to the Secretary all properties under the agency's ownership or control that qualify for inclusion in the NRHP.

Following the completion of the inventory procedures outlined within this document, those archeological sites judged to be eligible for inclusion in the NRHP (i.e., historic properties) may be formally nominated.

- Formal nomination of a historic property does not preclude the property's protection. Sites determined eligible are afforded the same "treatment" and protection under the law as are those sites formally listed on the NRHP.

AR 420-40 specifies that the installation commander will nominate historic properties through command channels to the NPS. INT Form NPS 10-900a (NRHP Inventory Nomination Form) and INT Form NPS 10-900b (Continuation) will be used for nominations. Nominations include, among other information, an explicit statement of significance that identifies the relationship of the site to the broader historical, architectural, archeological, or cultural context that has been established by the State.

6. Lease or Sale of NRHP-Eligible Properties

NRHP-eligible or NRHP-listed buildings that are not needed by SFAAP for current or projected facility purposes may be leased or exchanged under the directives of Section 111 (16 U.S.C.470h-3) if SFAAP determines that the lease or exchange will adequately ensure the preservation of the historic property. The sale of a historic property may require historic preservation covenants legally attached to its transfer that encourage the preservation of the architectural integrity of the given resource. Such covenants typically reference the Secretary of the Interior's *Standards for Rehabilitation*.

B. Current Inventory of Cultural Resources

1. Archeological Resources

a. Recorded Sites

To date, the two archeological surveys that have been conducted have located and recorded seven sites on SFAAP (Table II-1):

- six prehistoric sites (14JO6, 14JO49, 14JO50, 14JO51, 14JO52, and 14JO53), and
- one historic site (14JO102h).

The site was first located and recorded by Eoff in 1968. The only documentation of the site from that investigation is a State of Kansas Archeological Survey Form. In 1991 the eastern portion of the site, which is on privately owned land, was tested through the excavation of four 1-m² units (Feagins 1991). A prehistoric ceramic sherd, dated to the Middle Ceramic period, and several pieces of chipped stone debris were recovered from the excavation. The eastern part of the site was considered ineligible for inclusion in the NRHP; however, since nothing is known of the western part of the site, which is situated on SFAAP land, site 14JO51 is considered to be of unknown eligibility.

None of the remaining six recorded sites has been tested. Of the prehistoric sites, four (14JO49, 14JO50, 14JO52, and 14JO53) have been tentatively dated to the Woodland/Middle Ceramic period on the basis of ceramics with sand and/or shell temper; and site 14JO6 could be dated only to an unknown prehistoric period due to a lack of time-diagnostic artifacts. Historic site JO102h consists of two masonry abutments

Table II-1
Preinstallation-era Cultural Resources Recorded at the Sunflower Army Ammunition Plant

Site #	Recorded by (Reference)	Cultural Affiliation	Feature present	Archival Research	Tested	NRHP Recommendations
14JO6	Eoff (No report)	Prehistoric—Unassigned	Unknown	NA	No	Unknown
14JO49	Eoff (No report)	Prehistoric—Woodland/ Middle Ceramic	Unknown	NA	No	Unknown
14JO50	Eoff (No report)	Prehistoric—Woodland	Unknown	NA	No	Unknown
14JO51	Eoff (No report) Feagins (tested, 1991)	Prehistoric—Middle Ceramic	Unknown	NA	Yes (partially— only outside facility boundary)	Unknown
14JO52	Eoff (No report)	Prehistoric—Middle Ceramic	Unknown	NA	No	Unknown
14JO53	Eoff (No report)	Prehistoric—Woodland/ Middle Ceramic	Unknown	NA	No	Unknown
14JO102h	Feagins (1991)	Historic—Unassigned	Unknown	NA	No	Unknown

from a former bridge that spanned Kill Creek on a road to Lexington. Since only a portion of the facility has been surveyed, it is predicted that additional preinstallation sites remain to be identified on the facility.

b. Potential Archeological Sites Based on Archival Sources

Based on archival sources, a variety of historic sites are known to exist within the facility but remain to be field verified. Three historic atlases of SFAAP, General Land Office plats, a USDA soils map, and a plat of the Shawnee Reservation land grants indicate that:

- approximately 92 potential historic-period sites consisting of farmsteads, schools, churches, village sites, and Indian land claims exist within SFAAP (see Figure I-4).

2. Architectural Resources

Approximately 1,200 buildings and structures comprise the architectural resources of SFAAP. Nearly 1,000 of these buildings and structures were constructed during World War II. The Army has determined that existing information is adequate to identify significant World War II buildings and structures and will not conduct an additional architectural survey for that purpose. A previous architectural inventory (MacDonald and Mack Partnership 1984) summarizes the available data on the World War II-associated buildings. The remaining military architecture dates to the Cold War era. The Inactivation PA stipulates that a change in maintenance levels for buildings and structures may be a result of inactivation of SFAAP. The APE of this program encompasses the entire SFAAP. Any adverse effect to the military buildings and structures from the inactivation process has been mitigated through a concurrence determination by the Kansas SHPO.

The single exception to the mitigation of the military architecture concerns the preinstallation home of Dr. Sam Roberts (Building No. FH-3), which is eligible for inclusion in the NRHP.

3. Traditional Cultural Properties and NAGPRA-Related Cultural Items and Human Remains

a. Traditional Cultural Properties

A "traditional cultural property" can generally be defined as a historic property that is eligible for NRHP inclusion based on "its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community (NPS 1992:1). No potential traditional cultural properties as per the NHPA and AIRFA, as defined in NPS National Register Bulletin No. 38 *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, have been identified on the facility to date.

b. NAGPRA-Related Cultural Items and Human Remains

According to NAGPRA [25 U.S.C. § 3001; 43 CFR Part 10], human remains as well as cultural items—consisting of both associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony—are covered by the regulations. The NAGPRA inventory for the installation is complete; no NAGPRA-related human remains nor cultural material of potential significance has been identified.

c. Summary

It is recommended that the facility develop a Memorandum of Understanding (MOU) for procedures to be followed in the event that Native American human remains and cultural items—as defined by NAGPRA legislation and regulations—are encountered during a future activity at the installation (see CRMP discussions on “Compliance with Native American Graves Protection and Repatriation Act” and “Procedures During Recovery of Human Remains”). An MOU will also serve as a guide for AIRFA and traditional cultural properties compliance.

C. NRHP Criteria for Evaluation

The qualification of a property as significant is judged in relation to four criteria for evaluation defined by 36 CFR Part 60. These four criteria for evaluation are applied following the identification of relevant historic themes and related research questions.

The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- Criterion A: That are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: That are associated with the lives of persons significant in our past; or
- Criterion C: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: That have yielded, or may be likely to yield, information important in prehistory or history [36 CFR Part 60.4].

The significance of a resource is best understood through a knowledge of its historic development and its relationship to other similar resources. A research design defines specific questions to be used as a guide for evaluating and interpreting the data gathered from investigations. Within the research design, historic contexts provide a means of organizing information concerning the stages of prehistoric and historic development in various times and places and serve to identify the salient research issues (research themes) for each period. Historic contexts or a research design for the prehistoric and preinstallation historic periods have yet to be formally developed for the facility.

Based on the background research completed for this CRMP, it is considered likely that cultural resources from any of the cultural periods defined by the State may be present within SFAAP. A variety of research themes is presented that may be used to evaluate archeological significance and eligibility for inclusion in the NRHP. The prehistoric and preinstallation historic overviews (see Appendices F and G) outline the current knowledge of the SFAAP vicinity for the prehistoric and preinstallation historic periods.

The major archeological themes recognized for the region provide an important framework for the evaluation of the prehistoric and historic period archeological sites within SFAAP. Those themes that have been selected for SFAAP are presented in Table II-2. The theme of “culture history” applies to all sites. However, the relevance of a particular site to a given theme does not mean that the site is significant, for many sites will provide some information related to culture history. Determination of site significance depends on the recognition of site characteristics that exhibit the potential to contribute information important to the understanding of prehistory or history.

Among the most general themes considered for the prehistoric period are:

- cultural chronology—the chronological framework for the SFAAP area is not clearly developed and consequently is very generalized. Sites with datable materials, particularly charcoal for radiocarbon dating, are essential to the scientific reconstruction of prehistoric cultural chronology.
- settlement patterns—due in part to the generalized chronology that is available, recognition of settlement pattern changes through time has been restricted; research into the range of aboriginal sites that occur is necessary to reconstruct the variety and evolution of past settlement systems.
- subsistence patterns—documentation of the subsistence patterns of particular time periods is inadequate at the present time, but such documentation is essential to an understanding of how and why certain subsistence systems such as maize agriculture were developed.
- environment reconstruction—the paleoenvironment affected the choices made by prehistoric peoples concerning site location, subsistence patterns, and the necessary associated technology; consequently, an understanding of the changing paleoenvironmental conditions is essential to understanding changing human adaptations.

While prehistorians at the University of Kansas, Wichita State University, the Kansas State Historical Society, and other institutions differ in their perspectives and approaches to prehistoric archeology, most would agree that the potential archeological resources at SFAAP may offer a unique opportunity to examine some of the issues that require clarification. One issue, initiated in Logan's work at Cedar Creek to the west of SFAAP, involves evidence of overlapping prehistoric cultural complexes in the SFAAP vicinity. In *Archaeological Investigations in the Plains Village Frontier; Northeastern Kansas*, Logan (1990:24) contends that the core areas of the Apple Valley phase, the May Brook phase, and the Clinton phase overlap in a large area that includes the vicinity of Johnson County and SFAAP. Logan proposes that this overlapping area represents the common territory of the Steed-Kisker, Pomona, and Nebraska peoples as indicated by intrasite association of ceramic wares, house forms, and the configurations of storage pits, hearths, and dwellings. If archeological survey and testing confirm this overlap at SFAAP, the opportunity to examine some of the material correlates of cultural interaction is particularly relevant to the understanding of local and regional prehistory.

Table II-2
Selected Research Themes for Cultural Resources within the Sunflower Army Ammunition Plant,
Johnson County, Kansas

Prehistoric Period	Preinstallation Historic Period
Cultural Chronology	Effects of Popular Sovereignty on Frontier Settlement
Cultural History	Landscape Archeology
Paleoenvironmental Reconstruction	Organization of Agricultural Production
Material Culture and Technology	Settlement Patterns
Subsistence and Settlement Patterns	Intrasite Organization
Exchange	Inheritance Practices
Biological Anthropology	Consumer Behavior and Capital Investment
Mortuary Practices	
Site Formation Processes	
Social Organization	
Community Development	
Ritual Practices	

For cultural resources of the preinstallation historic period, the evaluation of the present data base may be addressed through a different set of research issues. SFAAP lies within the portion of frontier Kansas that endured a volatile, unpredictable, and important part of U.S. history during the late 1850s and the Civil War. SFAAP may also represent a particularly suitable landscape in which to examine the archeology of rural popular sovereignty. During the reign of popular sovereignty (1854-1860) and before Kansas was

admitted to the Union, the Kansas Territory was an arena in which two historic issues remained to be resolved in American history—slavery and the Native Americans. Raiding by proslavery (bushwhackers and Missourian “puke”) and free-state (jayhawker) bands was frequently carried out throughout the area. Since Lexington was an avowed slave-state community within the territory and nearby De Soto was a free-man town, it is likely that many settlers of both political persuasions were raided. At the time of popular sovereignty, much of SFAAP timbered lands and floodplain lands were held by Shawnee claims. The continued immigration into the region of more squatters with specific interests in those same lands brought further tensions and conflict to the area. Being within the 30-mile radius of Lawrence where much of the period’s violence was reported (Arnold 1931; Blair 1915; Litterer 1987; Phillips 1856) and along two of the major regional thoroughfares between Missouri ruffians and Lawrence (Oregon Trail and possibly the “California Trail”), it is likely that evidence from the period remains on SFAAP. As an effect of the raiding on the area settlers and the subsequent social disorder in general, it is possible, if not likely, that the chaos may have influenced some settlers to seek remote, secluded locations in thickly forested floodplains either for settlement or for caching their property. Potential rockshelters in the limestone escarpments along drainages may contain evidence of historic caching from the period (Gregg 1874:25; Marcy 1859:162-164).

Domestic property types from 1854 to 1865 may include short-term encampments and temporary homesteads and more long-term settlements. Temporary encampments may be represented by fire hearths, cache pits, and refuse scatters consisting of tin cans, bottle glass, ceramics, and possibly other materials including pillaged spoils. Potential short-term structures may include lean-tos and possibly sod houses. More permanent settlements may be marked by more pronounced refuse deposits, well and privy shaft features and cisterns, and framed farmhouses and related buildings with masonry sill foundations. Information is needed to understand if the social climate of the period influenced the duration, character, and composition of settlements and how some families were able to overcome and survive the frontier period. One subject that may be particularly suited for the rural landscapes of SFAAP is how the frontier period of popular sovereignty is physically represented across a range of sites, or otherwise absent beneath the forest and grassland surfaces of the land. The scale of the facility’s relatively undisturbed acreage may provide one of the most suitable areas in which to examine a composite of sites related to the frontier period.

Another research issue that may be applicable to the rural historic landscapes of SFAAP is the organization of agricultural production and the evolution of historic farm operations that existed on the facility. Specifically, the household (owner) farm, the family farm, the tenant farm, and the clustered farm community may provide the principal property types and the primary units of analysis to address the complex agricultural economy of the preinstallation historic period. Another property type that may exist from the frontier and Civil War periods is the slave-owner farmstead. Additional research issues that may be considered are settlement patterns and intrasite organization, site formation processes, consumer behavior, inheritance practices, and community development.

These themes and questions, in turn, define the kinds of evidence a site must possess in order to be considered a historic property. The integrity and research potential of a site are primary factors to consider regarding site significance. The following points must be considered in such a determination.

- What are the ages, arrangements, character, and integrity of the cultural deposits that are represented within the site?
- Does the site contain discrete (vertical or horizontal) components assignable to particular time periods?
- Has any portion of the site been disturbed so that the spatial relationships of the artifacts and features have been destroyed? If so, what was the nature of the disturbance?
- What portion of the site is undisturbed?

These factors are particularly important to the assessment of the archeological resources. In order to evaluate the significance of a site, it is important to understand the range of materials that are represented, their ages, functions, and interrelationships as well as considerations of the relationship of a component to other components in the vicinity. The issue of physical integrity is particularly important since some sites may have been extensively disturbed and thus have lost their research potential. The issue of cultural components that are represented is important to an assessment of both prehistoric and historic period resources. The presence of multiple, stratified cultural components would be particularly important for site interpretation.

For both archeological and architectural properties, seven aspects or qualities define integrity:

location—the place where the historic property was constructed or the place where the historic event occurred;
design—the combination of elements that create the form, plan, space, structure, and style of a property;
setting—the physical environment of a historic property;
materials—the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
workmanship—the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
feeling—a property's expression of the aesthetic or historic sense of a particular period of time; and
association—the direct link between an important historic event or person and a historic property.

Although a particular archeological site may exhibit sufficient integrity, there remains the question of whether or not the resource contains sufficient data that could be applied to addressing particular research questions. The following characteristics must be considered for archeological sites.

- Does the site contain datable material? For prehistoric sites, although diagnostic artifacts are often relied upon, charcoal for radiocarbon dating is preferable. For historic period sites, diagnostic artifacts and historical documentation are used to identify the period of occupation.
- Is the preservation at the site such that subsistence data in the form of bone and charred plant remains will be recovered? Within the upland environment, such preservation is not always present unless midden or trash accumulation and feature contexts (e.g., hearths, storage pits, cellars, wells, etc.) have created a special environment.
- Are artifact densities sufficient for the recognition of activity areas and intersite functional differences? Ideally, short-term occupation sites may provide the clearest patterns of intrasite activity areas; however, extremely short-term sites often result in artifact densities that are too low for the recognition of activity areas or site function.
- Is the site a primary example of a particular site type or representative of a particular time period of which we have little knowledge?

These data requirements comprise some of the primary qualities in the determination of whether a given cultural resource is or is not significant, although sites do not have to meet all of these characteristics in order to be considered significant. This is especially true for the prehistoric sites where the lack of datable material and sufficient quantities of artifacts makes site interpretation very difficult. The last characteristic in the above list is particularly relevant for the historic period in which early twentieth-century sites, such as farmsteads, are frequently considered less significant than sites of an earlier period, for example the protohistoric period about which much less is known.

D. NRHP Categories of Properties at SFAAP

1. NRHP-Eligible Properties

NRHP-eligible properties are cultural resources that are considered significant because they contain essential information regarding cultural heritage at the national, regional, State, or local level. For SFAAP, this area this would include Kansas and Johnson County with its surrounding environs.

- Archeological resources:
 - * To date, no archeological sites are considered eligible for inclusion in or currently listed on the NRHP (Table II-3). It is anticipated that as further survey and testing investigations are undertaken, additional archeological sites will be considered eligible.

Table II-3
NRHP Recommendations for Previously Recorded Cultural Resources

Site Number	Tested	NRHP Recommendations	Reference
14JO6	No	Unknown	none
14JO49	No	Unknown	none
14JO50	No	Unknown	none
14JO51	Partially	Unknown / Ineligible *	Feagins 1991
14JO52	No	Unknown	none
14JO53	No	Unknown	none
14JO102h	No	Unknown	none

* only the eastern part of the site (on land adjacent to SFAAP) has been tested and determined ineligible

- Architectural resources:
 - * The Roberts house (Building No. FH-3) has been determined eligible for inclusion in the NRHP based on its importance as a local architectural landmark and as an intact example of a historic regional building style (see Appendix I). Therefore, it is to be protected and maintained under the standards required by the Secretary of the Interior's *Standards for Rehabilitation*.
 - * Approximately 1,000 buildings or structures were built at SFAAP during or after World War II. Those built during the war years are considered historically important due to the association of SFAAP with the events of World War II. Under the Inactivation PA, however, all of the World War II-era built environment has been mitigated through a concurrence determination by the Kansas SHPO (see Appendix I).

2. Resources of Unknown NRHP Eligibility

Resources of unknown eligibility are those resources for which NRHP evaluation has not been completed, but which must be considered as potentially eligible until a final determination of eligibility has been made. These resources must be properly managed or preserved, and, pending the completion of the evaluation process, they must be accorded the same treatment as NRHP-eligible properties. Within the facility, resources of unknown eligibility consist of the following:

- Archeological resources:
 - * Six prehistoric sites are considered to be of unknown eligibility: 14JO6, JO49, JO50, JO51, JO52, and JO53 (note: the eastern part of JO51 which is outside the SFAAP boundary is considered ineligible).
 - * Approximately 92 historic-period sites based on archival research as yet unrecorded.
- Architectural resources:
 - * No buildings or structures on the facility are of unknown eligibility.

3. NRHP-Ineligible Resources

Ineligible resources are cultural resources that have been evaluated as being ineligible for inclusion to the NRHP. These resources contain minimal information or have been disturbed and, consequently, are of limited value. Ineligible resources require no further management attention. Presently considered ineligible for listing in the NRHP are:

- Archeological resources:
 - * None of the seven recorded sites has been sufficiently investigated to determine eligibility, although the eastern part of site 14JO51 (on land adjacent to the facility) has been tested and determined to be ineligible for NRHP inclusion (Feagins 1991:50). After testing has been completed at the recorded sites, it is anticipated that some will be determined ineligible for NRHP inclusion.
- Architectural resources:
 - * No SFAAP buildings, structures, or objects dating to the Cold War meet Criteria Consideration G for exceptional significance that is applied to resources less than 50 years in age; therefore, all are considered ineligible for NRHP inclusion.

4. Identification of Data Needed to Complete Documentation and Evaluation of Known Resources

In regard to the military-related architectural resources at SFAAP, any adverse effect proposed by the inactivation plan has been mitigated through SHPO concurrence with documentation outlined in the Inactivation PA (see Appendix I). No additional data are needed to complete the evaluation of the military-era architectural properties at SFAAP.

The only remaining standing structure from the preinstallation era is Building FH-3, the former home of Dr. Sam Roberts, a once-prominent local dentist. The "two-story, yellow sandstone and wood frame house with its massive chimneys and balconied double-height living space exhibits the vigorous, rustic masonry style popular in early twentieth-century Kansas City and vicinity" (MacDonald and Mack Partnership 1984:17). The structure was classified at that time as a Category III historic property based on the fact that it represents an important local architectural landmark and because it is a good example of an intact country house built in a regional variant of the arts and crafts tradition of the early twentieth century (MacDonald and Mack Partnership 1984:17). The structure was documented by Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) Level IV recordation. In a letter dated November 18, 1992, sent to then SFAAP Commander Lt. Col. Richard Jackson, the SHPO concurred with the eligibility of the Roberts house for inclusion in the NRHP under Criteria B and C (see Appendix I). It should be reiterated that although the structure has been evaluated for its architectural qualities, the surrounding grounds have not been investigated for their potential to contain buried intact cultural deposits associated with Dr. Roberts. Therefore, the area in the vicinity of the house itself has as yet not been recorded archeologically nor evaluated as a site.

Concerning the archeological resources, according to the Historic Properties Report (MacDonald and Mack Partnership 1984:17), the land purchased for the plant included 150 farms and the small community of Prairie Center. The Prairie Center cemetery was relocated off-post shortly after the creation of the facility. As the prehistoric and historic archeological resources within SFAAP are identified and recorded through a survey and inventory program, it will be possible to complete the NRHP evaluation process. Of the seven archeological sites currently of unknown NRHP eligibility, six are prehistoric (14JO6, 14JO49, 14JO50, JO51, 14JO52, and 14JO53), and one is historic (14JO102h; see Table II-3). The data required to complete the evaluations of any known or newly recorded archeological sites and categorize them as either NRHP-eligible or ineligible resources may be obtained through intensive survey and/or testing actions:

- relocation and survey-level subsurface investigations (i.e., shovel testing) of those recorded archeological sites whose locations are presently known;
- initial location and survey-level subsurface investigations (i.e., shovel testing) of those potential archeological sites whose locations and present conditions are unknown or uncertain;
- intensive subsurface investigations (i.e., test excavation) of those archeological sites that may have multiple horizontally and/or vertically stratified moderate to high artifact density components based on shovel test (extensive delineation) results;
- archival research on potential historic sites to identify those for which it may be possible to determine age, occupants, research value, and possible historical significance. The purpose of the archival research is to assist in the determination of property type by identifying the form of agricultural production of the sites (i.e., plantation, household farm, family farm, tenant farm, or clustered farm community), as well as characteristics related to household occupancy, inheritance, land tenure, agricultural census data, and property boundaries and to include the existing historic documentation in the evaluation process; and
- intensive subsurface investigations (i.e., shovel testing and test excavation) and more extensive archival research of potentially significant historic period farmsteads and farm communities. The fieldwork should be designed to address the internal configuration of the historic farm facilities, the distribution of cultural deposits, and the potential features in order to characterize the physical remains of the property type.

All levels of subsurface investigation are intended to yield data relating to the nature of an archeological site and its deposits. These data will provide the basis for the NRHP evaluation of the resource. Three areas of concern are addressed with data collected through subsurface investigation:

- the present physical limits of the site,
- the present physical condition and integrity of the site, and
- the age and function of the site.

Determining the present physical limits of the site involves an accurate identification of:

- the area of the site (horizontal parameters), and
- the depth of the archeological deposits (vertical distribution).

As the archeological survey continues at SFAAP, it will be important that the inventory succeed in identifying (1) the general physical location of each site, (2) the physical limits, and (3) the depth and potential integrity of the archeological deposits. These data are required to isolate areas that require preservation measures and to determine how the site might be impacted by various facility activities.

Determination of the physical integrity of the site requires the collection of accurate data relating to:

- the nature of the depositional environmental episodes,
- the nature and degree of any post-depositional disturbances,

- the contextual integrity of the artifacts in the deposits,
- the degree of feature preservation within the site, and
- the character and arrangement of the cultural deposits to evaluate the internal structure of the site (i.e., activity clusters, etc.).

These data are necessary in order to properly evaluate the research potential of a site or component and for providing critical data that will clarify understanding of past lifeways. These data support the formulation and testing of models to interpret how the site was formed, the quality and quantity of data that are preserved on the site, and the research problems that data from the site can help elucidate. In addition, a reliable understanding of the variation in preservation and the structure of the site will enable better preservation and protection from impacts arising from facility activities.

A determination of age and function of the site from test excavations is critical in adequately evaluating the research potential of the site and pinpointing those research problems that the site can best address. The determination of age and function is also essential so that the site evaluation is conducted relative to other sites or components within the same class or property type. The relative worth of cultural resources in relation to one another should not be a consideration when evaluating NRHP eligibility. If a cultural resource possesses the ability to provide information about historic contexts, it is eligible under Criterion D, regardless of whether another site exists that may offer more information. The relative importance of historic properties is considered, however, when developing mitigation strategies, with excavation directed toward sites believed to have the best potential to yield information.

For historic sites, additional archival research is required to clarify the present nature of the historic data base, to identify the former farm communities, and to identify which farms are best documented historically. In the case of historic resources, the site documentation may be crucial to the identification of the relevant property type and for an evaluation of site significance and NRHP eligibility.

